Appendix D
Outline of TPP Activities

Table D-1 provides an outline of the Technical Project Planning (TPP) process (see Figure D-1) activities described in this manual.

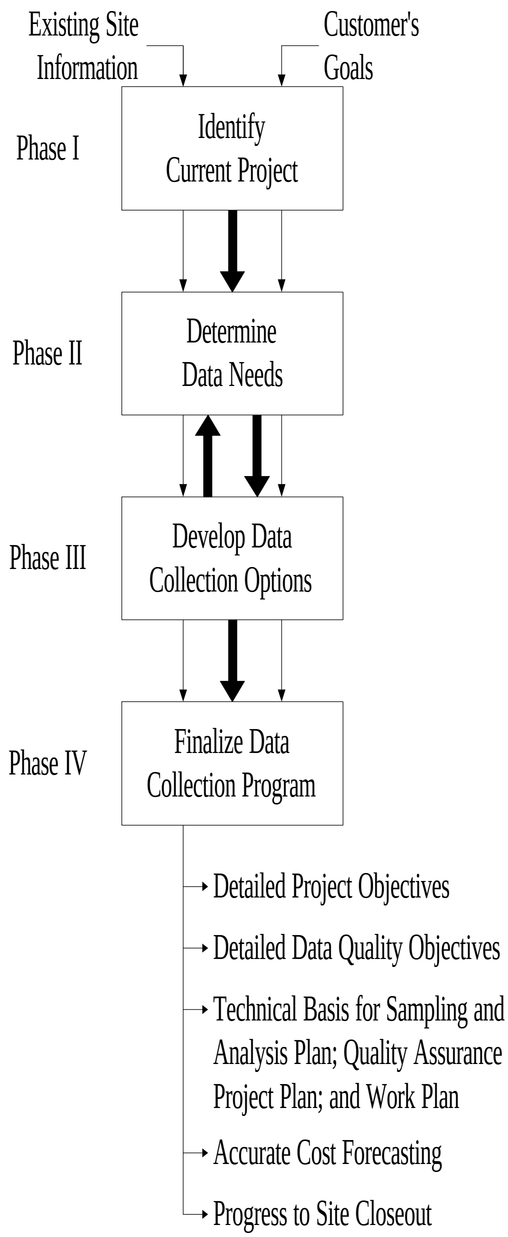

Figure D-1
Technical Project Planning (TPP) Process

Chapters 1 through 4 describe how to conduct Phase I through Phase IV of the TPP process, respectively.

Chapter 5 provides some discussion about implementing and assessing data collection programs that have been designed using the TPP process.

The preparation of data quality objective (DQO) statements is just one of the outcomes of the TPP process. Similar guidance for preparing DQOs is provided in the U.S. Environmental Protection Agency's (EPA's) 7-Step DQO Process and in American Society of Testing Materials.[1,17] (Appendix E presents a detailed "crosswalk" from EPA's 7-Step DQO Process to the TPP process.)

Appendix F provides several worksheets and tables for documenting TPP information, decisions, and plans. The Appendix F tools are intended to help a team design and document a data collection program throughout their use of the TPP process.

Appendix G provides additional guidance regarding verification of DQO attainment and a related worksheet. Efforts to verify DQO attainment can be thought of as follow-up TPP activities that should be conducted before other data quality assessments are performed.

Table D-1
Outline of TPP Activities

Phase	Activity	Sub-Activities/Consideration(s)
Phase I **1.1** Prepare Team Information Package *Team Information Package =* *an informal collection of existing site information that is compiled for reference by the entire team*	**1.1.1** Identify TPP Team Members (p 1-2 to 1-5)	**1.1.1.1** Decision Makers **1.1.1.2** Data Users **1.1.1.3** Data Implementors **1.1.1.4** Team Selection
	1.1.2 Identify Customer Goals (p 1-5 to 1-6)	**1.1.2.1** Customer's Concept of Site Closeout **1.1.2.2** Customer's Schedule Requirements **1.1.2.3** Customer's Site Budget
	1.1.3 Gather Existing Site Information (p 1-6 to 1-7)	**1.1.3.1** Conduct Preliminary Site Visit **1.1.3.2** Gather Site Data and Reports **1.1.3.3** Obtain Operations Records **1.1.3.4** Collect Background Literature **1.1.3.5** Conduct Site History Interviews
Phase I **1.2** Identify Site Approach *Site Approach =* *an overall strategy for managing a site from its current condition to the desired site closeout condition*	**1.2.1** Evaluate Site Information and Data (p 1-8 to 1-10)	**1.2.1.1** Review Site Information and Data **1.2.1.2** Identify Preliminary Conceptual Site Model **1.2.1.3** Identify Potential Points of Compliance **1.2.1.4** Designate Media of Potential Concern
	1.2.2 Identify and Document Project Objectives (p 1-10 to 1-12)	**1.2.2.1** Primary Regulatory Processes **1.2.2.2** Secondary Regulatory Programs **1.2.2.3** Other Project Objectives
	1.2.3 Identify Regulator and Stakeholder Perspectives (p 1-12)	**1.2.3.1** Determine Regulator Perspectives **1.2.3.2** Determine Community Interests
	1.2.4 Define Probable Remedies (p 1-12 to 1-13)	**1.2.4.1** Presumptive Remedies **1.2.4.2** Innovative Technologies
	1.2.5 Identify Executable Stages to Site Closeout (p 1-13 to 1-14)	(The scope of an executable stage can be thought of as the site activities scheduled to occur between milestones along the critical path timeline of site activities.)

Table D-1 (continued)
Outline of TPP Activities

Phase	Activity	Sub-Activities/Consideration(s)
Phase I **1.3** Identify Current Project *Current Project = a detailed strategy for completing the current executable stage(s) of site activities including finalization of project objectives*	**1.3.1** Recognize Site Constraints and Dependencies (p 1-14 to 1-16)	**1.3.1.1** Administrative Constraints and Dependencies **1.3.1.2** Technical Constraints and Dependencies **1.3.1.3** Legal and Regulatory Milestones and Requirements
	1.3.2 Define Courses of Action for Achieving Site Closeout (p 1-16 to 1-17)	**1.3.2.1** Operable Units/Exposure Areas **1.3.2.2** Expedited Removal **1.3.2.3** Phasing (Series or Parallel) **1.3.2.4** Field Screening and Field Analytical Methods **1.3.2.5** Expedited Site Characterization
	1.3.3 Document Current Executable Stage (p 1-18)	The team should document the current executable stage by renumbering all project objectives to represent the planned sequence, as well as clearly differentiate between the basic project objectives associated with current project and the optimum project objectives associated with future executable stages at a site.
Phase I **1.4** Complete Phase I Activities	**1.4.1** Finalize Acquisition Strategy (p 1-18)	
	1.4.2 Initiate Scope of Work Sections (p 1-19)	
	1.4.3 Prepare Phase I Memorandum for Record (p 1-19)	A complete Phase I MFR contributes to institutional site knowledge about a site and should be a stand-alone document attached to the site-related Project Management Plan.

Table D-1 (continued)
Outline of TPP Activities

Phase	Activity	Sub-Activities/Consideration(s)
Phase II **2.1** Determine Data Needs *data need =* *site information or environmental data that is required to satisfy a project objective(s)*	**2.1.1** Review Phase I Memorandum for Record (MFR) (p 2-1)	Review of Phase I information is particularly critical for those personnel not involved in Phase I efforts and for the entire team when some time has passed since Phase I efforts were completed.
	2.1.2 Establish Data User's Roles (p 2-1 to 2-4)	**2.1.2.1** Risk Data User Perspective **2.1.2.2** Compliance Data User Perspective **2.1.2.3** Remedy Data User Perspective **2.1.2.4** Responsibility Data User Perspective
	2.1.3 Evaluate Use of Existing Data (p 2-4)	The review of existing data is a fundamental and critical TPP activity that must occur prior to determining the additional data needed at a site to satisfy the project objectives.
	2.1.4 Define Data Needs (p 2-4 to 2-9)	**2.1.4.1** Probabilistic/Non-Probabilistic Decisions **2.1.4.2** Number of Samples **2.1.4.3** Data Collection Considerations **2.1.4.4** Risk Data Needs **2.1.4.5** Compliance Data Needs **2.1.4.6** Remedy Data Needs **2.1.4.7** Responsibility Data Needs
Phase II **2.2** Document Data Needs	(p 2-9)	What data is needed to satisfy which project objective(s)? Who needs the data? What is the intended data use(s)? What number of samples are required to satisfy the intended use(s)? What is reference concentration of interest or other performance criteria? Where is area of interest or desired sampling location(s) and depth(s)?
Phase II **2.3** Complete Phase II Activities	(p 2-10)	Review Data Need Worksheets Review Lists of Site Information Needs Distribute Data Need Worksheets

Table D-1 (continued)
Outline of TPP Activities

Phase	Activity	Sub-Activities/Consideration(s)
Phase III **3.1** Plan Sampling and Analysis Approach	**3.1.1** Review Phase I and Phase II Information (p 3-1 to 3-2)	**3.1.1.1** Review Phase I MFR **3.1.1.2** Review Phase II Data Needs
	3.1.2 Plan Sampling and Analysis Approaches (p 3-2 to 3-7)	**3.1.2.1** Sort and Combine Data Needs **3.1.2.2** Develop and Document Sampling Strategies **3.1.2.3** Develop and Document Analysis Strategies **3.1.2.4** Refine Plans Within Project Constraints
Phase III **3.2** Develop Data Collection Options *data collection options = basic, optimum, and excessive data collection options are labels for data collection plans that satisfy the basic project objectives related to the current executable phase; minimize future costs by collecting data for subsequent executable phases (optimum project objectives); and clearly isolate any data that is imposed or mandated by others in excess of the data needed by data users (excessive), respectively.*	**3.2.1** Basic Data Collection Option (p 3-8)	The “basic” data collection option is the data set needed to satisfy the current project objectives (e.g., remedial investigation data). The data collection efforts would produce data that meets all the data quality requirements of the data users for only the current project.
	3.2.2 Optimum Data Collection Option (p 3-8)	The “optimum” data collection option highlights opportunities to collect data needed to satisfy future project objectives during the current project. This grouping includes the portion of data needed for future executable stages that would be cost-effective and prudent to obtain during the current project.
	3.2.3 Excessive Data Collection Option (p 3-8 to 3-9)	This unique group of data needs are those data needs that data users believe are excessive for the purposes of satisfying both current and future project objectives. The data needs classified as “excessive” are those specifically requested, imposed, or mandated by others, but not needed by data users.
Phase III **3.3** Document Data Collection Options	(p 3-9)	What data needs are being met? What project objectives will be satisfied? How many samples need to be collected? Where do the samples need to be collected? What sample collection methods need to be used? What sample analysis methods need to be used? What technical limitations, cost benefits, and imposed requirements are associated with each type of applicable data collection option?
Phase III **3.4** Complete Phase III Activities	(p 3-10)	Review Data Collection Tables Review Lists of Site Information Needs Distribute Data Collection Tables

Table D-1 (continued)
Outline of TPP Activities

Phase	Activity	Sub-Activities/Consideration(s)
Phase IV **4.1** Finalize Data Collection Program *data collection program = plans for obtaining site information and environmental data needed by data users for satisfying project objectives and supporting site decision making efforts*	**4.1.1** Prepare Customer Communications (p 4-1 to 4-2)	Customer briefing should communicate to a customer uncertainty, cost and technical benefits, and regulatory perspective associated with each data collection option.
	4.1.2 Encourage Customer Participation (p 4-2 to 4-3)	Efforts to design the data collection program should include obtaining input from the customer. The customer should always be invited and encouraged to participate in design of the data collection program for their site.
	4.1.3 Suggest Regulator Participation (p 4-3)	After discussions with the customer, but prior to final scoping, the regulator should be included in a consensus decision process. However, it is always the customer's decision as to whether or when the regulator is asked to participate in the TPP process.
	4.1.4 Consider Participation of Others (p 4-3)	In many cases, other stakeholder interests and concerns can have a significant effect on decisions made by both the customer and regulator at a site. If stakeholders are actively interested in site activities, some level of their participation is likely appropriate during this step in the TPP process.
Phase IV **4.2** Document Data Collection Program	**4.2.1** Prepare Data Quality Objective Statements (p 4-4 to 4-5)	**4.2.1.1** Definition of a DQO **4.2.1.2** Team Preparation of DQOs
	4.2.2 Prepare Final Scope of Work or Work Plan (p 4-5)	In accordance with applicable guidance, the SOW and work plan must include at least the project objectives, site-specific DQO statements, and related technical requirements.
	4.2.3 Prepare Detailed Cost Estimate (p 4-5)	The PM will generally find that cost estimates are best prepared immediately after data collection program design, while technical personnel can easily recall details of the data collection program.
	4.2.4 Prepare Fact Sheet(s) (p 4-5 to 4-6)	In instances where a fact sheet will be prepared for presentation, the customer, PM, legal, and technical personnel should carefully plan the fact sheet for the receiving audience.
Phase IV **4.3** Complete Phase IV Activities	(p 4-6)	The PM should distribute copies of all data collection program components to the customer and technical personnel, as appropriate. Many of the TPP products should also be attached to the PMP.